REPOSITORIES:

Key Infrastructure For Maintaining European Research Excellence

MAR 12, 2025

OpenAIRE

LIBER

SPARC Europe

COAR

A Robust Repository Network is Key for Safeguarding our Research Legacies and Advancing Scientific Excellence in Europe

There is a global consensus that open science will make research more transparent and inclusive, accelerating the advancement of knowledge. However, the vision of open science depends on a robust network of well-functioning repositories that not only collect, preserve, and provide access to millions of valuable research outputs but also serve as critical institutional assets. In an era where AI is reshaping research and knowledge discovery, repositories play a key strategic role as curated collections of an institution's intellectual production, ensuring visibility, integrity, and trustworthiness of research outputs.

Institutional and disciplinary repositories represent a long-term investment in knowledge infrastructure, reinforcing the institution and research community's commitment to open science while safeguarding its research legacy. Recognizing this, COAR, OpenAIRE, LIBER, and SPARC Europe conducted a community consultation in the autumn of 2024 to better position repositories within the evolving open science landscape. The outcome of this consultation resulted in four compelling narratives that articulate the growing strategic value of repositories in Europe.

Repositories for Impact

> At the beginning, the research and teaching staff were reluctant to deposit their work in the repository, but now, they want everything they do to be included, because they have seen the impact of depositing their materials.

Open repositories are a foundational element of the digital research infrastructure in Europe because they provide free access and easy dissemination to publications, research data, and a wide range of other types of research outputs. They are indispensable for maximising the impact and reach of research and make research accessible beyond the so-called "ivory tower" so it can be used and applied by practitioners, industry and the public. To enable the reuse of European research over the long term, repositories apply FAIR principles and are actively curated so resources can be repurposed by other systems, contributing to new discoveries, research evaluation, and validation of research claims.

Repositories for Inclusiveness

> One of my non-academic colleagues, diagnosed with a rare disease and a complex treatment scheme, was able to identify one of the few doctors in the country, who can administer and supervise his treatment by finding the doctor's scientific publications in the repository.

European repositories provide open access to their collections to anyone who wants to use them[1], significantly improving the current situation where much content is still behind paywalls or on the hard drives of researchers. Repositories do not charge for publishing, nor for access - and play a critical role in supporting academic freedom by enabling authors to publish where they want while still making their content openly available to many other groups, including the general public.

[1]with the exception of sensitive or personal data.

Repositories for Trust

> At our repository, in several cases, the original digital documents were lost and the only copies were the ones in the repository. These included an institutional scientific journal that lost its server, a teacher who lost his classroom photography material due to a personal computer failure, and institutional memories that are no longer on the web.

Repositories are non-commercial and academy-led infrastructures that are trusted by their user communities to properly maintain and preserve the content they collect. Managed and financed by libraries, universities, or research centres, the mission of repositories is aligned with the values of scholarship and education, rather than motivated by profit-making or other partisan perspectives. In order to safeguard scholarly knowledge for future generations, repositories apply appropriate security and preservation practices that ensure their collections are protected from cyber incidents, degradation and changes in technology.

Repositories for Innovation

> Repositories fulfil the "publication" function in the diamond publishing ecosystem as part of the 'Publish, Review, Curate' (PRC) model. This model promises to transform scholarly publishing making it more efficient, cost effective, and transparent.

Across the entire ecosystem, repositories establish themselves as key hubs for scholarly content, adopting common standards and technologies that ensure seamless access for both humans and machines. By serving as the public face of generative AI, new publishing models, and other novel services, repositories contain essential resources, such as scientific publications, which act as foundational "food" for new innovations fine-tuned to science. These new services are able to leverage repository collections, driving the creation of domain-specific and generalized applications that propel scientific discovery and innovation.

Institutional Leaders Must Act Now to Secure the Future of Research

A repository is not just cost centres, it is a strategic asset that enhances reputation, accelerates knowledge sharing, and strengthens long-term research impact. In an era shaped by open science and AI-driven discovery, repositories serve as the foundation of an institutional and disciplinary knowledge infrastructure, ensuring research remains accessible, trusted, and reusable.

To maximize their value, institutions and the scholarly community must recognize repositories as a strategic, long-term investment and take decisive action to future-proof them. This means moving beyond minimal compliance and embedding repositories at the core of research strategies, open access policies, and digital transformation initiatives. Investing in repositories today ensures institutions remain at the forefront of research excellence and relevance in a rapidly evolving landscape.

Join OpenAIRE, LIBER, SPARC Europe, and COAR in a collective transformation to future-proof research infrastructure, ensuring that institutional repositories evolve into dynamic, AI-ready, interoperable hubs that empower open science, drive research excellence, and secure long-term accessibility and impact for generations to come.

IMPACT-Repo: FUTURE-PROOFING RESEARCH REPOSITORIES

Seven Pillars for a **Resilient, Interoperable, and AI-Ready Knowledge** Infrastructure for Research

Your repository's power	Act now!
Interoperable with scholarly communication and research systems	**Adopt open standards, persistent identifiers, and API-driven integrations.** • Ensure repositories comply with FAIR principles by using standardized metadata, and other persistent identifiers. • Enable seamless data exchange with institutional research information systems (CRIS), funder databases, and scholarly publishing platforms.
Maintained with sustainable funding and adequately staffed	**Secure long-term investment to maintain, scale, and enhance repositories.** • Treat repositories as critical research infrastructure and ensure dedicated institutional budget lines and sustainable funding models. • Leverage national and European funding opportunities to support repository development.
Powered by AI-ready infrastructure	**Structure metadata and repositories for AI-driven research, discovery, and automation.** • Adopt machine-readable metadata, linked data practices, and text/data mining capabilities to ensure repository resources remain accessible and valuable in an AI-driven research ecosystem.
Aligned with institutional research policies	**Ensure repositories are integral to research policies and funding strategies.** • Do not treat repositories as isolated services but as key components of the institution's broader open science and research impact agenda. • Integrate repository management into institutional data policies, funding allocation, and strategic planning.
Connected to national and international repository networks	**Strengthen national, regional, and international collaboration.** • Actively participate in repository networks and global initiatives to enhance visibility, share best practices, and align with evolving open science policies. • Advocate for repository inclusion in national and EU-wide research infrastructures.
Trained professionals ensuring repository excellence	**Invest in staff training and upskilling for repository management and AI-driven research.** • Ensure repository managers and librarians receive ongoing training in metadata curation, research data management, and emerging AI applications. • Establish professional development programmes and participate in international capacity-building initiatives.
Resilient & Secure against cyber threats and technological changes	**Implement strong digital preservation and security measures** • Safeguard research outputs from cyber incidents, data loss, and technological obsolescence. • Ensure regular backups, infrastructure monitoring, and compliance with best practices in long-term data integrity and protection.